

REMARKS

Claims 1-4 and 7-28 remain pending in this application. The Examiner's specific rejections will now be addressed.

Claim rejections under 35 USC 103

a) Rejection to claims 1-3, 7, 8, 10, 15-17 and 24-28

The Examiner rejected claims 1-3, 7, 8, 10, 15-17 and 24-28 under 35 USC 103(a) as being an obvious combination of U.S. Patent No. 6,697,276 (Pereira et al.) with admitted prior art (Admission). Respectfully, Applicant submits that there is insufficient motivation presented by Pereira et al. to use the memory cells of Admission, and that the combination of Pereira et al. and admitted prior art does not teach or disclose all the features recited in independent claims 1 and 15.

The present invention is directed to a "hybrid content addressable memory array"

Applicant submits that there is no motivation presented by Pereira et al. to use the memory cells of Admission in his suggested configuration to achieve a hybrid content addressable memory array. In particular, Pereira et al. does not discuss or infer a desire to conserve memory array space of the CAM device. The Applicant has previously opined that a particular advantage resulting from the presently claimed invention is to reduce silicon area use by the memory array. Previously cited references, such as the Voelkel reference (US Patent No. 6,108,227), demonstrate that one CAM cell circuit configuration can be operated in a binary mode and a ternary mode. However, both memory cells are the same size as was previously argued. Since Pereira et al. does not express a desire for a minimally sized memory array, Applicant submits that a person skilled in the art would not resort to using binary and ternary CAM cells of differing sizes, and will instead use CAM memory cells operable as both a ternary CAM cell and a binary CAM cell, as taught by Voelkel.

Claims 1 and 15 recite that the first type of content addressable memory cells and the second type of content addressable memory cells are simultaneously operable. Column 34, lines 19-23 of Pereira et al. does not explicitly state that both the binary CAM cells and ternary CAM cells are simultaneously operable, as is claimed in claims 1 and 15. Pereira

et al. states that each row could include both types of CAM cells, but does not state whether these are logical rows or physical rows. For example, a logical row can span one or more banks in the device, where one bank consists exclusively of ternary CAM cells while another bank consists exclusively of binary CAM cells. In such a configuration, both types of CAM memory cells could be operated independently of each other. The previously cited Hata reference (now US Patent No. 6,707,692) discloses a configuration where ternary and binary CAM storage capability are provided, however they cannot be simultaneously operated as argued in a prior response. In view of such possible configurations and the absence of descriptive detail regarding Pereira et al's suggested configuration, a person skilled in the art could not be expected to arrive at the claimed invention of claims 1 and 15 where both binary and ternary CAM cells are simultaneously operable.

Therefore, Applicant submits that claims 1-3, 7, 8, 10, 15-17 and 24-28 are not obvious due to the lack of motivation to combine the memory cells of Admission with Pereira et al, and the absence of any disclosure relating to the simultaneous operability of the suggested Pereira et al. configuration of binary and ternary CAM cells. Withdrawal of the Examiner's rejection under 35 USC 103(a) is respectfully requested.

b) Rejection to claims 4, 9, 14 and 21-23

The Examiner rejected claims 4, 9, 14 and 21-23 under 35 USC 103(a) as being an obvious combination of Pereira et al. with Admission. As claims 4, 9 and 14 depend either directly or indirectly from claim 1, Applicant submits that the Examiner's rejections thereto have been rendered moot.

Independent claim 21 recites that the first and second content addressable memory cells are simultaneously operable and have differing sizes, as recited in claims 1 and 15. Applicant submits that the previous arguments presented to support the non-obviousness of claims 1 and 15 apply equally to claim 21.

Therefore, withdrawal of the Examiner's rejection to claims 4, 9, 14 and 21-23 under 35 USC 103(a) is respectfully requested.

c) Rejection to claims 11-13 and 18-20

The Examiner rejected claims 11-13 and 18-20 under 35 USC 103(a) as being an obvious combination of Pereira et al., Admission and US Patent No. 6,161,970.

Appln. S/N 10/809,421
Amdt dated September 11, 2006
Reply to Office Action dated November 28, 2006

As claims 11-13 and 18-20 depend either directly or indirectly from claims 1 and 15, Applicant submits that the Examiner's rejections thereto have been rendered moot in view of the argued non-obviousness of claims 1 and 15.

Therefore, Applicant submits that the application is now in condition for allowance, and favorable action to that end is respectfully requested.

We believe no fee is required. However, if a fee is due, the Commissioner is hereby authorized to charge any additional fees, and credit any overpayments to Deposit Account No. 501593, in the name of Borden Ladner Gervais LLP.

Respectfully submitted,

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